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EXAMINER	
JELINEK, BRIAN J	

ART UNIT	PAPER NUMBER
2615	

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/899,066	PARK, SE WOONG	
	Examiner	Art Unit	
	Brian Jelinek	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-28 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-28 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 7/6/2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

The Examiner respectfully submits a response to the amendment received on 7/19/2004 of application no. 09/899,066 filed on 7/6/2001 in which claims 1-28 are currently pending.

Priority

The Examiner respectfully corrects the previous acknowledgement of the claim for foreign priority, which erroneously indicated a certified copy had been filed in a parent application. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. The Applicant's claim for foreign priority is further recorded on form PTO-326.

Specification

The objection to the specification is maintained. The disclosure is objected to because of the following informalities: "the zoom lens" on page 7, line 17 is incorrectly numbered. Appropriate correction is required.

Arguments

The Applicant's arguments have been fully considered but they are not persuasive. Please refer to the following office action, which clearly sets forth the reasons for non-persuasiveness.

The Examiner respectfully maintains claims 1-5, 9, 11-13, 17, 26-27 as rejected under 35 U.S.C. 103(a) as being unpatentable over Beis (U.S. Pat. No. 5,172,220) in view of Chino (U.S. Pat. No. 6,046,863).

Regarding claims 1-5, 9, 11-13, 17, 26-27, the Applicant acknowledges that Beis teaches a video camera with a first sensing unit to produce black and white images when the incoming light is in a range below a certain threshold and a second sensing unit for producing color images when the incoming light is in a range above the threshold; and a single lens element. Furthermore, the Applicant acknowledges that Chino teaches a zoom lens; an auto-focus mechanism that maintains the image in focus while the lens is zoomed; and eliminating an out-of-focus problem caused by the insertion and/or removal of an optical filter.

The Applicant charges that the "Office Action fails to meet its burden of demonstrating proper motivation for one of ordinary skill in the art to modify Beis as proposed". In support, the Applicant asserts that providing a zoom lens for Beis would enhance its surveillance function is an unsupported conclusion and suggests that the ability of a zoom lens to allow distant objects to be imaged is only allegedly well known.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine

the references would have been knowledge generally available to one skilled in the art. For example, it is well known to provide video camera having a variable focal length to permit selective magnification of the image captured by the camera, thereby allowing the operation of the camera to zoom in on an object of interest; and when video cameras are employed in security surveillance systems, it is often desirable that the zoom condition of the camera be changed very rapidly, either to zoom in on a scene of interest in the event of an alarm or the like, or to make a rapid transition from one scene to another in a predetermined sequence of surveillance scenes.

Furthermore, the Applicant incorrectly asserts the Office Action would modify the lens system of Beis with a zoom lens system incorporating a neutral density filter and charges that Beis and Chino are concerned with distinctly different problems, and that they function differently. In response to applicant's argument that Chino is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the references are within the field of endeavor because Beis teaches a camera comprising a lens system, where an optical filter may be inserted and/or removed from the optical path, and Chino teaches a zoom lens that compensates an out-of-focus condition caused by the insertion and/or removal of an optical filter. Furthermore, in no way does the Office Action suggest supplanting the optical filter of Beis with a neutral density filter; rather it is clear that the zoom lens of Chino would function in harmony with the optical filter of Beis.

Futhermore, the Applicant charges that the Office Action speculatively asserts that the zoom capability provided by Chino would operate with the set photographing mode because zooming would take place in both modes. In response, the Examiner notes that Beis teaches a day-night black-and-white and color camera (Fig. 3), were an optical filter is inserted in the optical path when photographing in a daytime mode with the color image sensor; and an optical filter is not inserted in the optical path when photographing in a nighttime mode with the black-and-white image sensor (col. 1, lines 8-10; col. 4, lines 51-53; col. 6, lines 33-41). Furthermore, Chino teaches zooming when a filter is inserted in the optical path, and also when the filter is not inserted into the optical path (Fig. 4). Clearly, a user would use the teaching of Chino to zoom in on an object of interest in the daytime, when an optical filter is inserted into the optical path, and also in the nighttime, when an optical filter is not inserted into the optical path. As a result, there is clear motivation to move the zoom lens to compensate for the insertion and/or removal of an optical filter and also to move the zoom lens to provide a zooming capability in both the set black-and-white and color photographing mode.

Furthermore, the Applicant charges that there is no disclosure of correlating a first trace data to a daylight mode and a second trace data to a nighttime mode. As noted above, Chino teaches a first zoom tracing curve, comprising trace data, when an optical filter is inserted in the optical path; and a second zoom tracing curve, also comprising trace date, when an optical filter is not inserted in the optical path (Fig. 4). In addition, Beis teaches inserting an optical filter in the optical path in the daytime mode, and not inserting an optical filter in the optical path in the nighttime mode. As a result, it is clear that one skilled in the art would have known to have used a first trace data when an

optical filter is inserted in the optical path in the daytime mode, and to have used a second trace data when an optical filter is not inserted in the optical path in the nighttime mode.

The Examiner respectfully maintains claims 6-8, 10, 14-16 and 18-25 as rejected under 35 USC 103(a) as being unpatentable over Beis (U.S. Pat. No. 5,172,220), in view of Chino (U.S. Pat. No. 6,046,863), and further in view of Mizoguchi et al. (U.S. Patent 5,959,669).

Regarding claims 6-8, 10, 14-16 and 18-25, the Applicant charges that Beis does not disclose a need for an OLPF, so there is no need to consider the Mizoguchi et al. reference. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Mizoguchi et al. provides clear motivation for providing an OLPF when photographing in color in order to eliminate false color (col. 1, lines 20-34). Furthermore, Mizoguchi et al. provides clear motivation for not using a OLPF when photographing in black-and-white, which involves no false color, in order to realize high-resolution (col. 1, lines 40-55).

Furthermore, the Applicant charges that Mizoguchi et al. is concerned with different issues than are Beis and Chino. In response to applicant's argument that

Mizoguchi et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the teaching of Mizoguchi et al. is pertinent to the particular problem with which the applicant was concerned because Mizoguchi et al. teaches how an OLPF can be used in a day-night camera for optimal resolution and false color suppression of the black-and-white and color photographing.

Claim Rejections - 35 USC § 103

Claims 1-5, 9, 11-13, 17, 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beis (U.S. Pat. No. 5,172,220) in view of Chino (U.S. Pat. No. 6,046,863).

Regarding claim 1, Beis teaches surveillance camera comprising a control method of a CCD (Charge-Coupled Device) camera (col. 6, lines 15-16) having at least one photographing mode (col. 1, lines 46-50), further comprising: detecting an illumination of a photographing region to be photographed with the CCD camera (col. 2, lines 31-39); comparing the detected illumination with a reference illumination value (col. 2, lines 31-39); and setting a photographing mode of the CCD camera on the basis of comparing the detected illumination with a reference illumination value (col. 2, lines 31-39). Beis further teaches the use of a lens (Fig. 1, element 1), but does not disclose the details of the lens system, e.g. pre-storing trace data of a lens for the CCD camera; and controlling

a movement of a lens of the CCD camera in accordance with the set photographing mode by loading corresponding pre-stored trace data of the lens.

However, Chino teaches a zoom lens pre-storing trace data of a lens for the CCD camera (col. 3, lines 56-65); and controlling a movement of a lens of the CCD camera in accordance with the set photographing mode by loading corresponding pre-stored trace data of the lens (col. 4, lines 36-65). One of ordinary skill in the art would have provided the zoom lens of Chino, comprising storing and loading lens trace data in accordance with the set photographing mode, for the purpose of improving the surveillance capability camera of Beis by allowing close-up images of an intruder in a large area to be captured (col. 1, lines 11-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the zoom lens of Chino, comprising storing and loading lens trace data in accordance with the set photographing mode, for the purpose of improving the surveillance capability camera of Beis by allowing close-up images of an intruder in a large area to be captured (col. 1, lines 11-13). Furthermore, it is clear that controlling a movement of a lens of the CCD camera is performed in accordance with the set photographing mode by loading corresponding pre-stored trace data of the lens because zooming would occur in both the day and night modes of Beis.

Regarding claim 2, Beis teaches the photographing mode is set as a daytime mode when the detected illumination is not less than the reference illumination value (col. 1, lines 8-10; col. 1, lines 46-50; col. 2, lines 30-39).

Regarding claim 3, Beis teaches the photographing mode is set as a nighttime mode when the detected illumination is not greater than the reference illumination value (col. 1, lines 8-10; col. 1, lines 46-50; col. 2, lines 30-39).

Regarding claim 4, the combination of Beis and Chino clearly teach pre-stored trace data comprises first trace data and second trace data, and controlling the movement of the lens further comprises: loading pre-stored first trace data in the daytime mode; loading pre-stored second trace data in the nighttime mode; and controlling a movement of the lens on the basis of the loaded first and second trace data because Beis teaches providing a filter when operating the surveillance camera in the daytime mode (col. 6, lines 33-37) and not providing a filter when the camera is operated in the nighttime mode (col. 6, lines 40-41). Furthermore, Chino teaches a first zoom tracing curve changes upon inserting or removing optical filters, which can be compensated for by loading a second zoom tracking curve upon the insertion or removal of an optical filter (col. 2, lines 34-52).

Regarding claim 5, the combination of Beis and Chino clearly teach the first trace data and the second trace data comprise information for controlling a movement of the lens when the photographing mode is converted into the daytime mode and the nighttime mode, respectively because Beis teaches providing a filter when operating the surveillance camera in the daytime mode (col. 6, lines 33-37) and not providing a filter when the camera is operated in the nighttime mode (col. 6, lines 40-41). Furthermore, Chino teaches a first zoom tracing curve changes upon inserting or removing optical filters, which can be compensated for by loading a second zoom tracking curve upon the insertion or removal of an optical filter (col. 2, lines 34-52.

Regarding claim 9, Beis teaches the CCD camera comprises a control unit (Fig. 1, element 8). Beis does not teach storing trace data in a memory of the CCD camera and

loading trace data into the control unit of the CCD camera upon conversion of the photographing mode.

However, Chino does teaches the CCD camera (Fig. 3, element 100) comprises a control unit (Fig. 3, element 36), and further comprising: storing trace data in a memory of a CCD camera and loading trace data into the control unit of the CCD camera upon conversion of the photographing mode (col. 1, lines 28-52).

Regarding claim 11, Beis teaches a control method of a CCD (Charge-Coupled Device) camera (col. 6, lines 15-16) that has a daytime and a nighttime photographing mode (col. 1, lines 8-10), comprising: detecting an illumination of a photographing region to be photographed by a CCD camera (col. 2, lines 30-36); and setting a photographing mode of the CCD camera to a daytime mode or a nighttime mode by judging whether the detected illumination is less or greater than a reference illumination value (col. 2, lines 30-39). Beis further teaches an optical filter is provided in the daytime mode and no optical filter is provided in the nighttime mode (col. 6, lines 33-41); and using a lens (Fig. 1, element 1). Beis does not teach the capability to control the movement of the lens after loading a first and second pre-stored trace data from memory.

However, Chino does teach pre-storing first trace data and second trace data in a memory (col. 1, lines 28-52); and controlling a movement of a lens of the CCD camera on the basis of a first trace data and a second trace data (col. 1, lines 28-52). Furthermore, Chino teaches switching between a first and second zoom tracing curve upon the insertion or removal of a filter (e.g., an infrared filter) (col. 1, lines 28-52). One of ordinary skill in the art would have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus

condition (Chino: col. 1, lines 28-52) caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode (Beis: col. 6, lines 33-41). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode.

Regarding claim 12, Beis teaches setting the daytime mode when the detected illumination is not less than the reference illumination value (col. 1, lines 9-10 and col. 2, lines 31-37).

Regarding claim 13, setting the nighttime mode when the detected illumination is not greater than the reference illumination value (col. 1, lines 9-10 and col. 2, lines 31-37).

Regarding claim 17, Chino teaches that the first and second trace data is pre-stored in a memory (col.1, lines 28-52). Furthermore, it is clear that the trace data is stored in a map format because the positions of the focusing lens are correlated to a plurality of positions of the zoom lens (Fig. 5).

Regarding claim 26, Beis teaches a CCD (Charge-Coupled Device) camera (col. 6, lines 15-16) having at least one photographing mode (col. 1, lines 8-10), comprising: means for detecting an illumination of a photographing region to be photographed with the CCD camera (col. 2, lines 31-39); means for comparing the detected illumination with a reference illumination value (col. 2, lines 31-39); and means for setting a photographing mode of the CCD camera on the basis of comparing the detected

illumination with a reference illumination value (col. 2, lines 31-39). Beis does not teach means for pre-storing trace data of a lens for the CCD camera; and means for controlling a movement of a lens of the CCD camera in accordance with the set photographing mode by using corresponding pre-stored trace data of the lens.

However, Chino teaches a zoom lens pre-storing trace data of a lens for the CCD camera (col. 3, lines 56-65); and controlling a movement of a lens of the CCD camera in accordance with the set photographing mode by using corresponding pre-stored trace data of the lens (col. 4, lines 36-65). One of ordinary skill in the art would have provided the zoom lens of Chino, comprising storing and loading lens trace data in accordance with the set photographing mode, for the purpose of improving the surveillance capability camera of Beis by allowing close-up images of an intruder in a large area to be captured (col. 1, lines 11-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the zoom lens of Chino, comprising storing and loading lens trace data in accordance with the set photographing mode, for the purpose of improving the surveillance capability camera of Beis by allowing close-up images of an intruder in a large area to be captured (col. 1, lines 11-13). Furthermore, it is clear that controlling a movement of a lens of the CCD camera is performed in accordance with the set photographing mode by loading corresponding pre-stored trace data of the lens.

Regarding claim 27, Beis teaches a CCD (Charge-coupled Device) camera (col. 6, lines 15-16) that has a daytime and a nighttime photographing mode (col. 1, lines 8-10), comprising: means for detecting an illumination of a photographing region to be photographed by a CCD camera (col. 2, lines 31-39); and means for setting a

photographing mode of the CCD camera to a daytime mode or a nighttime mode by judging whether the detected illumination is less or greater than a reference illumination value (col. 2, lines 31-39; col. 1, lines 46-50). Beis does not teach means for pre-storing first trace data and second trace data in a memory; means for loading the first trace data in the daytime mode; means for loading the second trace data in the nighttime mode; and means for controlling a movement of a lens of the CCD camera on the basis of the first trace data and the second trace data.

However, Chino does teach pre-storing first trace data and second trace data in a memory (col. 1, lines 28-52); and controlling a movement of a lens of the CCD camera on the basis of a first trace data and a second trace data (col. 1, lines 28-52).

Furthermore, Chino teaches switching between a first and second zoom tracing curve upon the insertion or removal of a filter (e.g., an infrared filter) (col. 1, lines 28-52). One of ordinary skill in the art would have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition (Chino: col. 1, lines 28-52) caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode (Beis: col. 6, lines 33-41). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode.

Claims 6-8, 10, 14-16, 18-25, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beis (U.S. Pat. No. 5,172,220), in view of Chino (U.S. Pat. No. 6,046,863), and further in view of Mizoguchi et al. (U.S. Pat. No. 5,959,669).

Regarding claim 6, Beis teaches that a filter may be placed into the optical path for photographing in a visible ray region in a daytime mode (col. 6, lines 33-42). Beis does not teach an object is photographable through an Optical Low Pass Filter (OLPF).

However, Mizoguchi et al. does teach an object is photographable through an Optical Low Pass Filter (OLPF) (col. 1, lines 20-34). One of ordinary skill in the art would have provided an OLPF filter during photographing with a color image sensor in the daytime mode in order to prevent aliasing in color images that contain high special frequencies (col. 1, lines 20-34). As a result, it would have been obvious to one skilled in the art at the time of the invention to have provided an OLPF filter during photographing with a color image sensor in the daytime mode in order to prevent aliasing in color images that contain high special frequencies.

Regarding claim 7, Beis teaches an object is photographable in an infrared ray region without passing through an infrared filter in the black-and-white nighttime mode (col. 6, lines 33-42), where the instant application defines an infrared ray region as a region having a low illumination). Furthermore, Mizoguchi et al. teaches that the use of an OLPF is not necessary when photographing in black-and-white because black-and-white photography is not subject to false color (col. 1, lines 40-45). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have photographed an object in an infrared ray region in the black-and-white mode without the use of an OLFP because black-and-white photography is not subject to false color.

Regarding claim 8, Mizoguchi et al. teaches the CCD camera has a lens unit comprising an OLPF that is mechanically switched in or out of an optical path of the lens unit according to a photographing mode (Fig. 11a and 11b; col. 11, line 66-col. 12, line 4). One of ordinary skill in the art would have provided the ability to mechanically switch an OLPF in or out of an optical path of the lens unit according to a photographing mode in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the ability to mechanically switch an OLPF in or out of an optical path of the lens unit according to a photographing mode in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution.

Regarding claim 10, Chino teaches trace data includes values for compensating a focus error of the lens in accordance with the use or not of a filter (col. 1, lines 28-52). Chino does not teach the filter may by an OLPF filter.

However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One of ordinary skill in the art would have provided trace data includes values for compensating a focus error of the lens in accordance with the use or not of an OLPF in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided trace data includes values for compensating a focus error of the lens in accordance with the use or not of an OLPF in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution.

Regarding claim 14, Beis teaches that a filter may be placed into the optical path for photographing an object in a visible ray region of the lens in a daytime mode (col. 6, lines 33-42). Beis does not teach photographing an object through an Optical Low Pass Filter (OLPF).

However, Mizoguchi et al. does teach photographing an object through an Optical Low Pass Filter (OLPF) (col. 1, lines 20-34). One of ordinary skill in the art would have provided an OLPF filter during photographing with a color image sensor in the daytime mode in order to prevent aliasing in color images that contain high special frequencies (col. 1, lines 20-34). As a result, it would have been obvious to one skilled in the art at the time of the invention to have provided an OLPF filter during photographing with a color image sensor in the daytime mode in order to prevent aliasing in color images that contain high special frequencies.

Regarding claim 15, Beis teaches photographing an object in an infrared ray region without passing through an infrared filter in the black-and-white nighttime mode (col. 6, lines 33-42), where the instant application defines an infrared ray region as a region having a low illumination). Furthermore, Mizoguchi et al. teaches that the use of an OLPF is not necessary when photographing in black-and-white because black-and-white photography is not subject to false color (col. 1, lines 40-45). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have photographed an object in an infrared ray region in the black-and-white mode without the use of an OLFP because black-and-white photography is not subject to false color.

Regarding claim 16, Chino teaches trace data includes values for compensating a focus error of the lens in accordance with the use or not of a filter (col. 1, lines 28-52). Chino does not teach the filter may by an OLPF filter.

However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One of ordinary skill in the art would not have used an OLPF filter in order to provide a black-and-white imaging mode with high-resolution (Mizoguchi et al.: col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention not to have used an OLPF filter in order to provide a black-and-white imaging mode with high-resolution. Furthermore, one of ordinary skill in the art would have used the second trace data for compensating a focus error in accordance with the non-use of the OLPF in order compensate for an out-of-focus condition caused by the removal of the filter (Beis: col.1, lines 34-44). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the second trace data for compensating a focus error in accordance with the non-use of the OLPF in order compensate for an out-of-focus condition caused by the removal of the filter.

Regarding claim 18, Beis and Chino teach the first trace data is for compensating a focus error of the lens varied through a filter in the daytime mode (please see the 103 rejection of claim 11). Neither Beis nor Chino teach the filter may be configured as an OLPF.

However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One of ordinary skill in the art would have provided the first trace data for compensating a focus error of the lens varied through a OLPF filter in the daytime mode

in order to provide a daytime color imaging mode without false color (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a first trace data for compensating a focus error of the lens varied through an OLPF in the daytime mode.

Regarding claim 19, Mizoguchi et al. further teaches the CCD camera has a lens unit comprising an OLPF that is mechanically switched in or out of an optical path of the lens unit according to a photographing mode (Fig. 11a and 11b; col. 11, line 66-col. 12, line 4). One of ordinary skill in the art would have provided the ability to mechanically switch an OLPF in or out of an optical path of the lens unit according to a photographing mode in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the CCD camera comprising a lens unit and an optical low pass filter included in the lens unit of the CCD camera which is mechanically switchable in and out of an optical path of the lens in order to provide a color imaging mode without false color and a black-and-white imaging mode with high-resolution.

Regarding claim 20, Beis and Chino teach the second trace data is for compensating a focus error of the lens varied by not passing through a filter in the nighttime mode (please see the 103 rejection of claim 11). Neither Beis nor Chino teach the filter may be configured as an OLPF.

However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One of ordinary skill in the art would have provided the second trace data for compensating a focus error of the lens varied by not passing through the OLPF in the

nighttime mode in order to provide the black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the second trace data for compensating a focus error of the lens varied by not passing through the OLPF in the nighttime mode in order to provide the black-and-white imaging mode with high-resolution.

Regarding claim 21, Beis teaches a control method of a CCD (Charge-Coupled Device) camera (col. 6, lines 15-16) having a lens (Fig. 1, element 1), and a nighttime mode and a daytime mode (col. 1, lines 8-10), comprising: detecting an illumination of a photographing region to be photographed by a CCD camera (col. 2, lines 30-39); and converting a photographing mode of the CCD camera into the daytime mode or the nighttime mode by judging whether the detected illumination is not less or greater than a reference illumination value (col. 1, lines 8-10; col. 2, lines 30-30). Furthermore, Beis teaches photographing the photograph region through a filter when the photographing mode is converted into the daytime mode (col. 1, lines 8-10; col. 6, lines 33-41); and photographing the photograph region without imaged light of the photographing region passing through a filter when the photographing mode is converted into the nighttime mode (col. 1, lines 8-10; col. 6, lines 33-41).

Beis does not teach pre-storing first and second trace data of a lens for the CCD camera; loading the first trace data for controlling a lens of the CCD camera so as to photograph the photographing region through an OLPF (Optical Low Pass Filter) when the photographing mode is converted into the daytime mode; loading the second trace data for controlling the lens of the CCD camera so as to photograph the photographing

region without imaged light of the photographing region passing through the OLPF when the photographing mode is converted into the nighttime mode; and adjusting a focus of the lens of the CCD camera on the basis of the loaded trace data.

However, Chino teaches pre-storing first and second trace data of a lens for the CCD camera (col. 1, lines 28-52). Futhermore, the combination of Beis and Chino clearly teach loading the first trace data for controlling a lens of the CCD camera so as to photograph the photographing region through a filter when the photographing mode is converted into the daytime mode; and loading the second trace data for controlling the lens of the CCD camera so as to photograph the photographing region without imaged light of the photographing region passing through the filter when the photographing mode is converted into the nighttime mode; and adjusting a focus of the lens of the CCD camera on the basis of the loaded trace data. This is true because Beis teaches providing a filter when operating the CCD camera in the daytime mode (col. 6, lines 33-37) and not providing a filter when the camera is operated in the nighttime mode (col. 6, lines 40-41); and because Chino teaches a first zoom tracing curve changes upon inserting or removing an optical filter, which can be compensated for by loading a second zoom tracking curve upon the insertion or removal of the optical filter (col. 2, lines 34-52). One of ordinary skill in the art would have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition (Chino: col. 1, lines 28-52) caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode (Beis: col. 6, lines 33-41). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have loaded the first trace data in a daytime mode and loaded a second trace

data in the nighttime mode in order to fix an out-of-focus condition caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode.

Neither Beis nor Chino teach the filter may be configured as an OLPF. However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One or ordinary skill in the art would have provided a OLPF in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a OLPF in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution.

Regarding claim 22, Chino teaches the first trace data and the second trace data are for compensating a focus error in accordance with the use or not of a filter (col. 1, lines 28-52). Mizoguchi et al. further teaches the filter may be of the OLPF type (col. 1, lines 20-34).

Regarding claim 23, please see the 103 rejection of claim 21 and note that the combination of Beis and Chino teach the first trace data loading process is performed in the daytime mode.

Regarding claim 24, please see the 103 rejection of claim 21 and note that the combination of Beis and Chino teach the second trace data loading process is performed in the nighttime mode.

Regarding claim 25, Mizoguchi et al. further teaches the optical low pass filter is included in the camera and is mechanically switchable in or out of an optical path of the

lens in accordance with the photographing mode (Fig. 11a and 11b; col. 11, line 66-col. 12, line 4). One of ordinary skill in the art would have provided the ability to mechanically switch an OLPF in or out of an optical path of the lens according to a photographing mode in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the ability to mechanically switch an OLPF in or out of an optical path of the lens according to a photographing mode in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution.

Regarding claim 28, Beis teaches a CCD (Charge-Coupled Device) camera (col. 6, lines 15-16) having a lens (Fig. 1, element 1) and a nighttime mode and a daytime mode(col. 1, lines 8-10), comprising: means for detecting an illumination of a photographing region to be photographed by a CCD camera (col. 2, lines 31-39); and means for converting a photographing mode of the CCD camera into the daytime mode or the nighttime mode by judging whether the detected illumination is not less or greater than a reference illumination value (col. 2, lines 31-39; col. 1, lines 46-50).

Beis does not teach means for pre-storing first and second trace data of a lens for the CCD Camera; means for loading the first trace data for controlling a lens of the CCD camera so as to photograph the photographing region through an OLPF (Optical Low Pass Filter) when the photographing mode is converted into the daytime mode; means for loading the second trace data for controlling the lens of the CCD camera so as to photograph the photographing region without imaged light of the photographing region

passing through the OLPF when the photographing mode is converted into the nighttime mode; and means for adjusting a focus of the lens of the CCD camera on the basis of the loaded trace data.

However, Chino teaches pre-storing first and second trace data of a lens for the CCD camera (col. 1, lines 28-52). Futhermore, the combination of Beis and Chino clearly teach loading the first trace data for controlling a lens of the CCD camera so as to photograph the photographing region through a filter when the photographing mode is converted into the daytime mode; and loading the second trace data for controlling the lens of the CCD camera so as to photograph the photographing region without imaged light of the photographing region passing through the filter when the photographing mode is converted into the nighttime mode; and adjusting a focus of the lens of the CCD camera on the basis of the loaded trace data. This is true because Beis teaches providing a filter when operating the CCD camera in the daytime mode (col. 6, lines 33-37) and not providing a filter when the camera is operated in the nighttime mode (col. 6, lines 40-41); and because Chino teaches a first zoom tracing curve changes upon inserting or removing an optical filter, which can be compensated for by loading a second zoom tracking curve upon the insertion or removal of the optical filter (col. 2, lines 34-52). One of ordinary skill in the art would have loaded the first trace data in a daytime mode and loaded a second trace data in the nighttime mode in order to fix an out-of-focus condition (Chino: col. 1, lines 28-52) caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode (Beis: col. 6, lines 33-41). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have loaded the first trace data in a daytime mode and loaded a second trace

data in the nighttime mode in order to fix an out-of-focus condition caused by the insertion of an infrared filter in the daytime mode and the removal of the infrared filter in the nighttime mode.

Neither Beis nor Chino teach the filter may be configured as an OLPF. However, Mizoguchi et al. teaches the filter may be of the OLPF type (col. 1, lines 20-34). One or ordinary skill in the art would have provided a OLPF in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution (col. 1, lines 20-55). As a result, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided a OLPF in order to provide a daytime color imaging mode without false color and a nighttime black-and-white imaging mode with high-resolution.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Jelinek whose telephone number is (703) 305-4724. The examiner can normally be reached on M-F 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Jelinek
12/20/2004

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